



# Research data and scholarly communication

Dorothea Salo  
Scholarly Communication Symposium  
Marquette University  
11 February 2013

When you think



Scholarly  
communication!

# chances are you think



Photo: linda, "Endless source of inspiration" <http://www.flickr.com/photos/jinterwas/5325454434/> CC-BY



Photo: marya, "austria today - 20 years ago" <http://www.flickr.com/photos/emdot/45246607/> CC-BY

**or even**

# or even



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| <input type="checkbox"/> Books         | To <input type="text"/>      |                            |
| <input type="checkbox"/> Pamphlets     |                              |                            |
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## Collection

Browse collections

Collect or publish  
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| <input type="checkbox"/> Pamphlets     | yyyy. yyyy/mm. |
| <input type="checkbox"/> Reviews       | yyyy/mm/dd     |
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### Latest from PLOS

#### After Ten Years of Publishing, V

JANUARY 24, 2013

At our ten year mark as a publisher of Open Access journals, we are celebrating a year-long series of events to recognize about through the adoption of Open Access target both the scientific community and the

The history and benefits of Open Access to address a lack of access to the majority behind paywalls, our founders shook up the with an [Open Access petition](#). Two years Public Library of Science, PLOS created launching its first journal, *PLOS Biology*.

### PLOS Publications

PLOS Journals

- PLOS ONE
- PLOS ONE

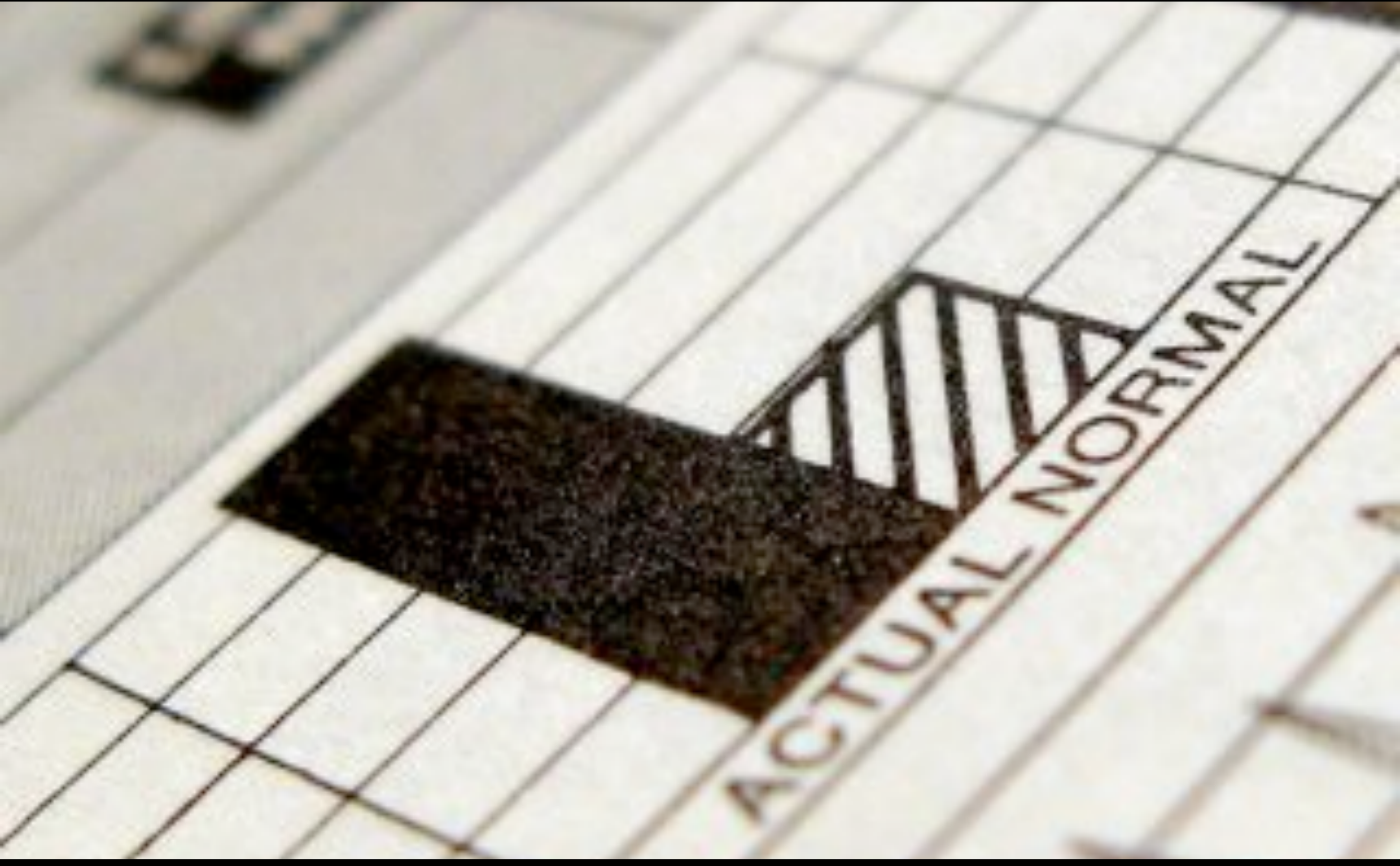
And when you think



Data!

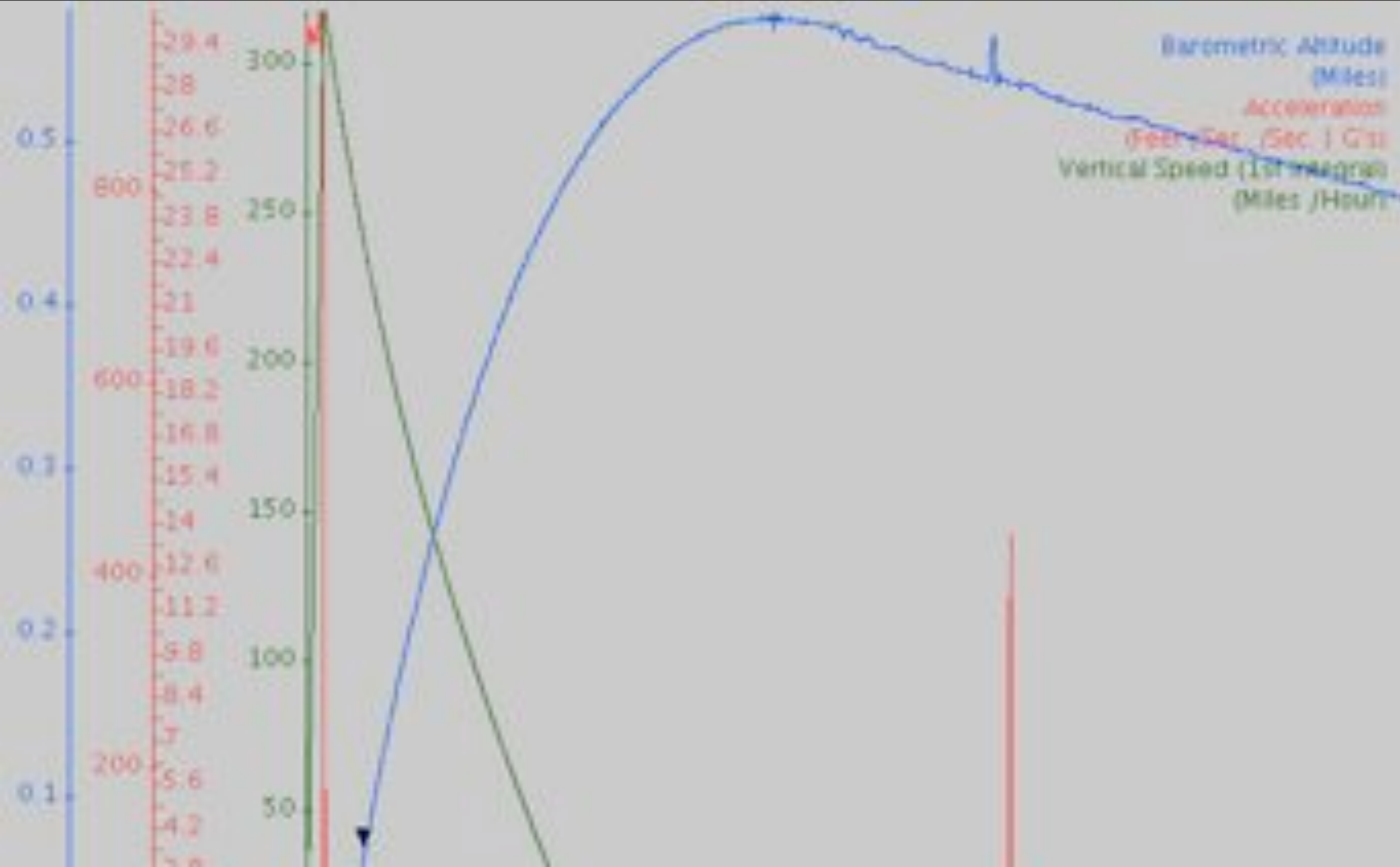
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## BALLOONING CEO SALARIES AND MASS LAYOFFS



# Data trapped in amber

Photo: Luz, "amber" <http://www.flickr.com/photos/nieve44/3800137286/> CC-BY



# Data trapped in notebooks

Photo: Steve Jurvetson, "How the Eagle Landed – the Grumman Construction Log" <http://www.flickr.com/photos/jurvetson/7610058658/> CC-BY



But that's **changing!**

(you know, just like  
everything else, right?)



Hey! You got your

Scholarly  
communication

in my

data!

Hey! You got your

data

in my

scholarly  
communication!

Let's see both of those in  
action.

(and talk about  
where **we** fit in)

Hey! You got your

Scholarly  
communication

in my

data!

# Data-mining the literature

Photo: Janet Lindenmuth, "Setting Props" <http://www.flickr.com/photos/j3net/3916541891/> CC-BY



Who owns  
metadata?

Who's allowed to  
work with it?

What if it's locked  
behind a paywall?

# Impact Factor

## THE THOMSON REUTERS IMPACT FACTOR

This essay was originally published in the *Current Contents* print editions June 20, 1994, when Thomson Reuters was known as The Institute for Scientific Information® (ISI®).

See also: ["The agony and the ecstasy: the history and meaning of the Journal Impact Factor"](#)

Librarians and information scientists have been evaluating journals for at least 75 years. Gross and Gross conducted a classic study of citation patterns in the '20s.<sup>1</sup> Others, including Estelle Brodman with her studies in the '40s of physiology journals and subsequent reviews of the process, followed this lead.<sup>2</sup> However, the advent of the Thomson Reuters citation indexes made it possible to do computer-compiled statistical reports not only on the output of journals but also in terms of citation frequency. And in the '60s we invented the journal "impact factor." After using journal statistical data in-house to compile the *Science Citation Index*® (SCI®) for many years, Thomson Reuters began to publish *Journal Citation Reports*® (JCR®) in 1975 as part of the SCI and the *Social Sciences Citation Index*® (SSCI®).

Informed and careful use of these impact data is essential. Users may be tempted to jump to ill-formed conclusions based on impact factor statistics unless several caveats are considered.

# Impact Factor

## THE THOMSON REUTERS IMPACT FACTOR

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you're KIDDING  
me, right?



# #altmetrics: ImpactStory

## Mega-phylogeny approach for comparative biology: an alternative to supertree and supermatrix approaches

(2009) Smith, Beaulieu, Donoghue *BMC Evol Biol*

### saved by scholars



### discussed by public



### cited by scholars



### saved by public



### recommended by scholars



### cited by public



# #altmetrics: ImpactStory

Mega-phylogeny approach for comparative biology: an alternative to supertree and supermatrix approaches

(2009) Smith, Beaulieu, Donoghue *BMC Evol Biol*



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Eugene Leczniak
-  PDF *Determining Axis and Axis Deviation on an ECG*  
Patrick Loftis
-  PDF *Qualitative Research Interviews*  
Sarah Knox and Alan Burkard

# ... but for machines!

Documentation

Inc

## ImpactStory API, v1

A

Welcome to the the ImpactStory API, version 1.

ImpactStory is a service that makes it quick and easy to view the impact of a wide range of research output. It goes beyond traditional measurements of research output -- citations to papers -- to embrace a much broader evidence of use across a wide range of scholarly output types. The system aggregates impact data from many sources and displays it in a single report, which is given a permalurl for dissemination and can be updated any time.

### javascript display embed code

If you are collecting metrics to display on a webpage, we recommend you use our javascript embed code. [Details here.](#)

### api base url

The base url of the REST API is <http://api.impactstory.org/>.

You may notice the example code below uses an API base of <http://impactstory.aplary.io> -- we strongly recommend you replace this with our primary API base in your own code.

Hey! You got your



data

in my



scholarly  
communication!

# Infrastructure

Photo: Steve Jurvetson, "Inverted Tension" <http://www.flickr.com/photos/jurvetson/992371651/> CC-BY



# Funder policies



The image is a screenshot of the National Science Foundation (NSF) website. At the top left is the NSF logo, a blue globe with 'NSF' in white, and the text 'National Science Foundation' and 'WHERE DISCOVERIES BEGIN' below it. To the right is a search bar with the word 'SEARCH' and a magnifying glass icon. Above the search bar is an orange button labeled 'QUICK LINKS'. Below the search bar is a dark blue navigation bar with white text for 'FUNDING', 'AWARDS', 'DISCOVERIES', 'NEWS', 'PUBLICATIONS', 'STATISTICS', 'ABOUT NSF', and 'FASTLANE'. On the left side, there is a sidebar with a black box containing the text 'Office of Budget, Finance and Award Management (BFA)' and a green and yellow abstract image. Below this are links for 'DIAS Home', 'CAAR Branch', 'Policy Office', 'Systems Office', and 'View DIAS Staff', along with a search box for 'Search DIAS Staff'. The main content area has a large blue heading 'Dissemination and Sharing of Research Results' with a green underline. Below this is the section 'NSF Data Sharing Policy' with a paragraph of text and a link to 'Award & Administration Guide (AAG) Chapter VI.D.4.'. Another section, 'NSF Data Management Plan Requirements', follows with a paragraph of text and a link to 'Grant Proposal Guide (GPG) Chapter II.C.2.'. The text in the main content area is as follows:

**Dissemination and Sharing of Research Results**

**NSF Data Sharing Policy**

Investigators are expected to share with other researchers, at no more than incremental cost and within a reasonable time, the primary data, samples, physical collections and other supporting materials created or gathered in the course of work under NSF grants. Grantees are expected to encourage and facilitate such sharing. See [Award & Administration Guide \(AAG\) Chapter VI.D.4.](#)

**NSF Data Management Plan Requirements**

Proposals submitted or due on or after January 18, 2011, must include a supplementary document of no more than two pages labeled "Data Management Plan". This supplementary document should describe how the proposal will conform to NSF policy on the dissemination and sharing of research results. See [Grant Proposal Guide \(GPG\) Chapter II.C.2.](#) for full policy implementation.



# Institutional data policies



The Graduate School

Policies and Procedures

Conflict of Interest

Conflict of Interest  
Regulatory Changes

Institutional COI

Research Data & Tangible  
Research Property Policies

Ethical Principles, Federal  
& State Law

Export Control

Extramural Support  
Policies

Human Research  
Protection Program

PI Status

Outside Activities  
Reporting

## UW-Madison Policies on Research Data & Tangible Research Property Policies

### Policy on Data Stewardship, Access and Retention

The University of Wisconsin-Madison has established this policy on Data Stewardship, Access and Retention to assure that research data are appropriately maintained, archived for a reasonable period of time, and available for review and use under the appropriate circumstances. The policy also provides for transfer of data in the event a research leaves UW-Madison.

This policy applies to all University of Wisconsin-Madison faculty, academic staff, visiting scholars, postdoctoral fellows or other trainees, research technicians, and graduate or undergraduate students and any other persons at UW-Madison involved in the design, conduct or reporting of research at or under the auspices of UW-Madison, and it applies to all research projects on which those individuals work, regardless of the source of funding for the project.

# Journal data policies

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\(JoRD\)](#)

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Publication](#) • [Journal Research Data Policy Bank \(JoRD\)](#)

## Journal Research Data Policy Bank (JoRD)

The Journal Research Data Policy Bank (JoRD) project will be conducting a feasibility study into the scope and shape of a sustainable service to collate and summarise journal policies on Research Data. The aim of this service will be to provide researchers, managers of research data and other stakeholders with an easy source of reference to understand and comply with Research Data policies.

Through maintaining a firm focus upon research literature and stakeholder consultations, this project will identify and consult with a wide range of stakeholders (nationally and internationally) and look at journal policies on Research Data from leading journals to deliver detailed requirements and

# Capturing and managing data



An open source tool helping researchers document, manage, and archive their tabular data, DataUp operates within the scientist's workflow and integrates with Microsoft® Excel.

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can do for you

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- Create Metadata
- Get Credit
- Archive & Share

## Check for Best Practices

Find out if characteristics of your dataset will prevent its future use.

SEE MORE

# Capturing and managing data



**UsefulChem** guest

home Edit 2 0 163

**OPEN** Notebook Science  

**UsefulChem Project**

This is an [Open Notebook Science](#) project in chemistry led by the Bradley Laboratory at Drexel University. Click on the **Recent Changes** button on the left for our latest work. ([Bradley talks and some articles on CNS](#))

Watch a [recent talk](#) where the UsefulChem project and Open Notebook Science is discussed in detail. More talks related to this topic are available [here](#).

1. [UsefulChem blog](#) (reports about project milestones mainly)
2. [UsefulChem Mailing List](#) (detailed discussions to get problems solved)
3. [Molecules blog](#) (molecules of relevance to our projects) [substructure search](#) [Home](#)

**Actions**

- Wiki Home
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- Pages and Files
- Members
- Manage Wiki

**Navigation**

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- UC blog
- CNSchallenge
- UC on ChemSpider
- Mailing List
- Libraries
- References
- Experiment Format
- Extra Credit
- Paper03 Draft
- Isolated Compounds

# Sharing and storing data



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get credit for all your research

or store it privately for FREE\*

Feedback?

# Keeping data safe

**PURDUE**  
UNIVERSITY

**Purdue University Research Repository**

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Search

## Publish Datasets with DOIs

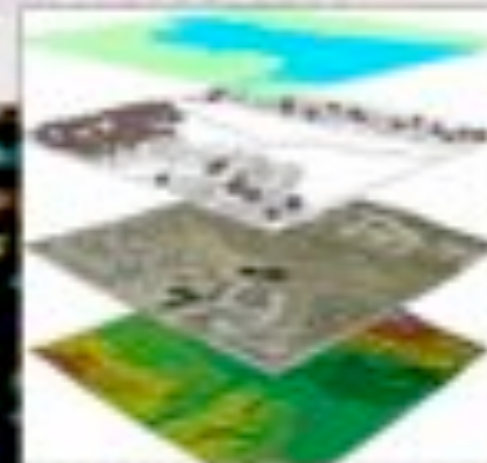
Use PURR to publish datasets with Digital Object Identifiers (DOI) that make it easier for people to cite your data and give you credit. Purdue is a founding member of DataCite, the international agency that registers DOIs for data.

[Learn More](#)

<http://dx.doi.org/10.4231/D3992W550>



DataCite



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# Helping people find data



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**Databib** is a searchable catalog / registry / directory / bibliography of **research data repositories**.

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**3**

**3TU.Datacentrum**

A multidisciplinary data repository for a consortium of universities in the Netherlands housing over...

**A**

**Addgene Plasmid Database**

Addgene is a non-profit organization dedicated to making it easier for scientists to share plasmids....

**Adult Blood Lead Epidemiology and Surveillance (ABLES) Interactive Database**

ABLES provides data on lead exposure of adults in the United States. The data comes from laboratory...

**Advanced Cooperative Arctic Data and Information Service (ACADIS)**

The Advanced Cooperative Arctic Data and Information Service (ACADIS) program includes data manageme...

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515 data repositories total in Databib.

# Citing data

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DataCite

Helping you to find,  
access, and reuse data

## What is DataCite?

We are a not-for-profit organisation formed in London on 1 December 2009.  
Our aim is to:

- establish easier access to research data on the Internet
- increase acceptance of research data as legitimate, citable contributions to the scholarly record
- support data archiving that will permit results to be verified and re-purposed for future study.

These goals are laid down in the DataCite statutes.

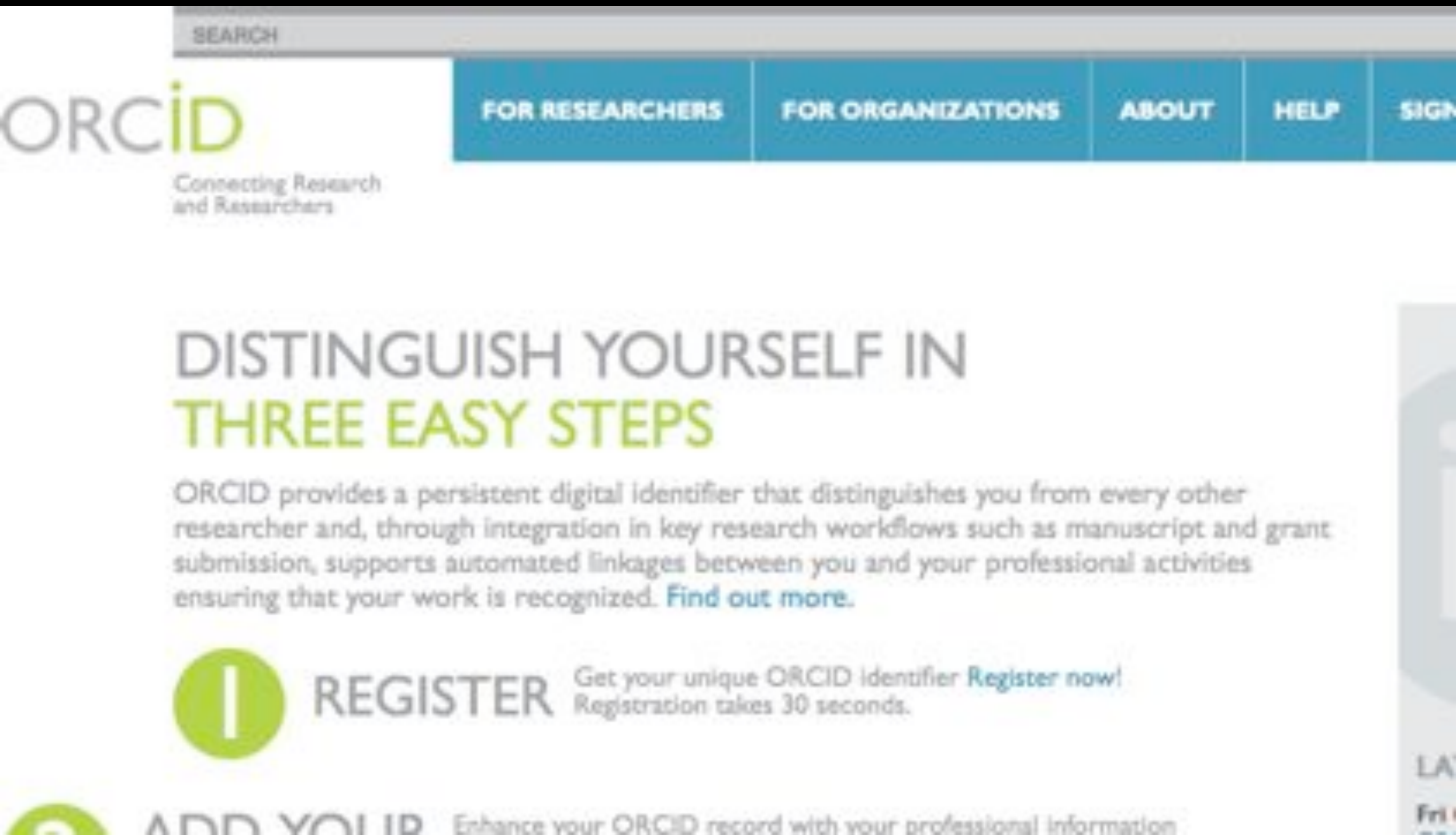
Why cite  
data?

What is  
DataCite?

What do  
we do?



# Citation infrastructure: name authority control





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Registration takes 30 seconds.
-  **ADD YOUR** Enhance your ORCID record with your professional information

LA  
Fri

# Human infrastructure: education and training

The logo for MANTRA, featuring the word "MANTRA" in a stylized, white, handwritten-style font.

Research Data Management Training

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## Online learning units

-  [Introduction to the course](#)
-  [Research data explained](#)
-  [Data management plans](#)
-  [Organising data](#)
-  [File formats & transformation](#)
-  [Documentation & metadata](#)
-  [Storage & security](#)
-  [Data protection, rights & access](#)  
NEW
-  [Preservation, sharing & licensing](#)

Introduction to the course

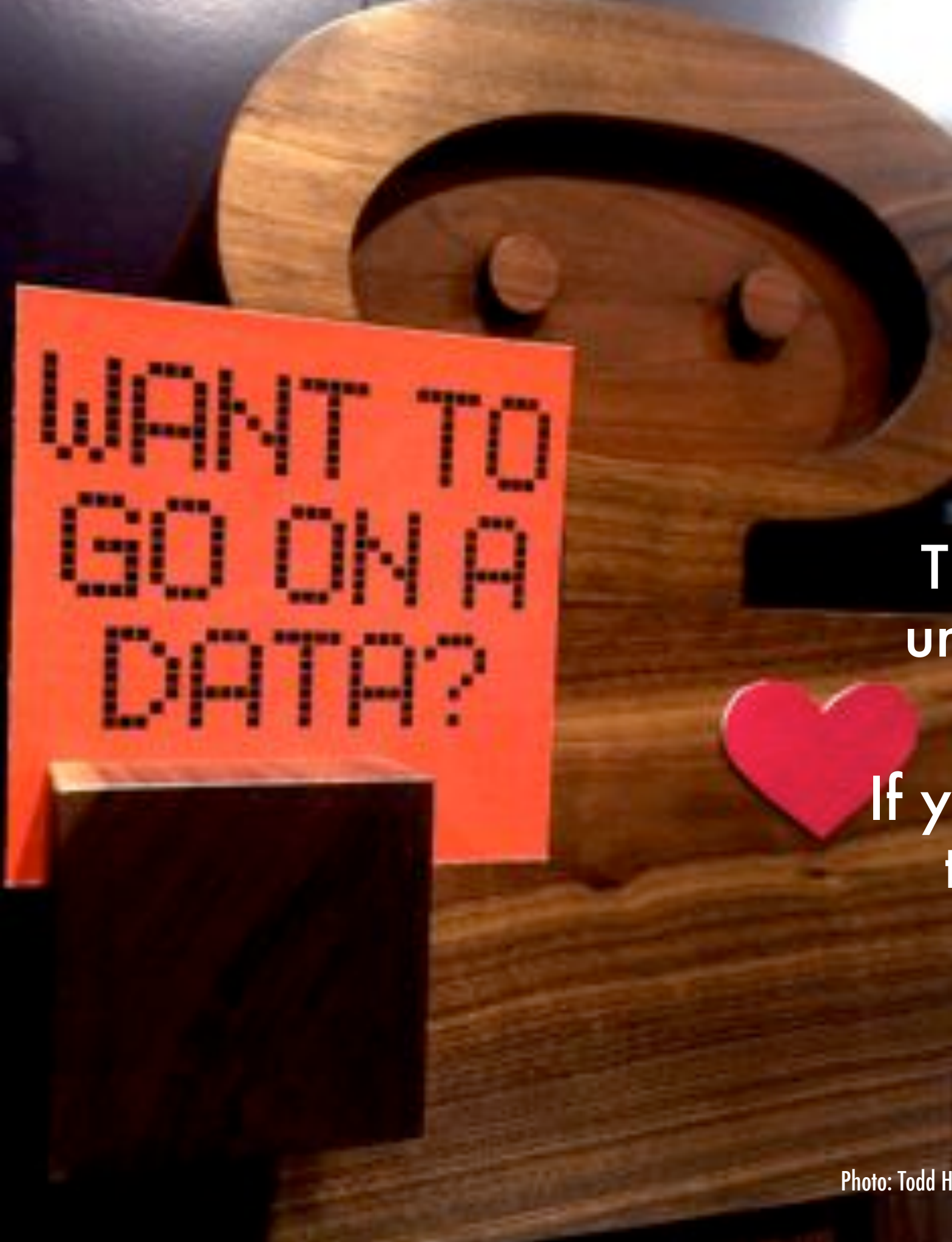
## About the course



This is a non-credit, free course which provides guidelines for good practice in research data management.

The course is particularly appropriate for postgraduate students and early career researchers who work with data and would like to learn more about managing their research data.

The course content is mainly geared for three disciplines: geosciences, social and political sciences and clinical psychology, however, many of the issues covered apply equally to all research disciplines.

A wooden smiley face sculpture with a red heart on its chest and a sign that says "WANT TO GO ON A DATA?". The sculpture is made of light-colored wood and has two small wooden dots for eyes. The sign is orange with black text.

WANT TO  
GO ON A  
DATA?

# Thank you!

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